7. CONCLUSION

The rational design of MOFs as heterogeneous catalysts has increased due to the ease and efficiency with which new catalytic capabilities may be introduced by modifying their organic struts with appropriate catalytic moieties. Anchoring the homogenous organometallic catalysts as MOF building blocks is a possibility. Post-synthetic mutilation of the organic linkers' open chelating sites might provide additional catalytic species. In addition, the catalytic range of MOFs may be extended by introducing organ catalysts within the framework. Additional Bronzed acidity is contributed to the network by the uncoordinated metal sites, giving these MOFs their catalytic activity in acid-driven processes. Because the stiffness of the frameworks protects the active sites from undesirable aggregation or disintegration, MOF-based catalysts have shown improved catalytic performance in certain circumstances compared to their homogeneous predecessors. In addition, MOFs may enhance selectivity due to their varied and adjustable structures, a phenomenon that may not be seen in homogeneous systems. However, more work has to be done to investigate MOF-based heterogeneous catalysts for practical uses. The diffusion resistance caused by the MOFs' pore size requires further attention. While mesoporous MOFs have been proposed as a solution to the diffusion issue, most come at the expense of structural stability. Furthermore, while precious metals are used in most MOF-based catalysts, their high price and scarcity make them unfeasible to use commercially.